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The effects of ethnicity, status stability, and ethnic identity on social competition

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THE EFFECTS OF ETHNICITY, STATUS STABILITY, AND ETHNIC IDENTITY ON SOCIAL COMPETITION

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The Effects of Ethnicity, Status Stability, and Ethnic Identity on Social Competition

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Running Head: ETHNICITY AND SOCIAL COMPETITION

Footnotes

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Abstract

Social competition is defined as in-group bias and out-group discrimination (Tajfel, 1978). The purpose of this thesis was to determine how an individual's ethnicity, manipulated status stability, and importance of ethnic identity effect social competition. A 6 x 2x 2 between-subjects design was utilized, where there were six levels of in-group/out-group pairs (with White, Hispanic, & Asian participants), two levels of status stability (stable and unstable), and two levels of ethnic identity importance (high and low). A sample of 229 undergraduate psychology students rated two bogus students' (one in-group member, one out-group member) performance on a Socialized Creativity task based on Tajfel's (1978) matrices. Results indicated that Hispanic and Asian participants showed more in-group bias than did White participants, however none of the ethnic groups differed in out-group discrimination. Participants who were high in ethnic identity importance showed more social competition than did participants who were low in ethnic identity importance.

The Effects of Ethnicity, Status Stability, and Ethnic Identity on Social Competition

Joan is a middle-aged history teacher for a local public high school. To describe herself, Joan would say she enjoys reading about and collecting artifacts reflective of her English heritage. Terry is also a middle-aged teacher at the same high school who teaches chemistry. Terry is a co-director for many of the high school plays, volunteers time to the California Coalition for Battered Women, is an active marathon runner, and she too collects artifacts reflective of her English heritage.

Both teachers receive a letter from the head coach of the Varsity soccer team asking them to rate two students who are enrolled in their classes. Apparently a university scout is interested in recruiting one of the two students to his university on a full scholarship. The teachers read that the scout needs the teachers' opinions to help make the decision between the students since both students are equally talented on the soccer field and in their academic scholarship (i.e., in GPA, SAT scores). The only real difference between the students is their ethnic background; one is White, the other is Mexican American. Accordingly, Joan decides to give a more favorable rating to the White student, whereas Terry rates both students equally well in her class and rates them both as equally personable.

There is an interesting point to take note of in this illustration. Despite the similarities that existed between the two students' scholarship in class, one teacher decided to slightly favor the student that maintained a membership within a similar social group to her own (i.e., in terms of ethnic background). This leads us to wonder why an individual might favor those who belong to the same social group over those who do not,

even when circumstances could invariably allow any person to prevail. On the other hand, the second teacher simply reported that she too thought both students were equally qualified based on her experience with them in the classroom.

It is intriguing that people differ in terms of how much favoritism they exhibit toward those who belong to a similar social group. The current research will examine the differences that exist when people are asked to rate or evaluate another social group. Social Identity Theory (Tajfel & Turner, 1986) provides reasoning behind how and why people favor those who maintain a similar group membership to their own. Then to expand on Social Identity Theory, the degree to which an individual identifies with a particular social group will also be considered in terms of how this may influence within group favoritism.

According to Social Identity Theory, people have an inherent need to establish and maintain a positive social identity, which can come about from maintaining membership in a social category or group (Tajfel and Turner, 1986). In general, an individual's social identity may be comprised of the elements that define one's self-concept, such as the knowledge of and feelings toward the group membership in which the individual shares with others (Smith & Mackie, 1995). By way of example, part of an individual's (general) identity may be encompassed by his/her social identity, an identity defined by some group membership. People may describe part of their identity by being affiliated with a political party (e.g., I am a democrat, or I am a republican). Tajfel and Turner (1986) reason that it is the process of intergroup social comparisons that helps the individual establish his or her social identity, and this social identity is usually devised in

favor of one's in-group (the group with which the individual belongs; e.g., favoring one's own political group over the other).

Theoretically, if the status of a group is perceived negatively by society, this negative perception should adversely influence the development of the individuals' social identity, and thus their self-esteem (Bohon, Singer & Santos, 1993). Furthermore, Social Identity Theory assumes that if an individual *unfavorably* compares his or her own group with an out-group, this can afford a feeling of low social status (i.e., one may feel unworthy or unimportant; Tajfel & Turner, 1986). Conversely, if an individual *favorably* compares his or her own group with an out-group, this comparison will result in the feeling of a high status position (i.e., one may feel worthy). Feelings of low status membership may result in promoting a negative social identity, whereas high status membership may support a positive social identity.

In addition, Social Identity Theory contends that when groups are categorized as low status, they should recognize the superiority of the high status out-group and favor that group. On the other hand, the high status group should also recognize their high status position and attempt to maintain superiority by engaging in in-group bias (favoring one's own group) and out-group discrimination (discriminating against the group that is not part of one's own).

This pattern of displaying in-group bias and out-group discrimination is the operationalization of what is known as social competition (Tajfel, 1978). The motivation to engage in social competition comes about from the desire to augment differences between groups, while favoring one's in-group. This can be contrasted with realistic

competition where the individual attempts to maximize his or her own self-interests irrespective of the group (Turner, 1975).

This notion that low status groups accept their low status and exhibit a slight favoritism toward the high status out-group, while the high status group exhibits social competition (in-group bias, out-group discrimination) has been evidenced with research using the minimal group paradigm (Garza & Santos, 1991; Sachdev & Bourhis, 1987; Tajfel, 1978). That is, in a minimal group paradigm where people are categorized by arbitrary groups (e.g., the red group vs. the blue group) the group given the high status position (through experimental manipulation) typically exhibits in-group bias/out-group discrimination, whereas the low status group accepts their low status position and shows favoritism toward the high status out-group.

The problem with the minimal group paradigm is that it employs arbitrary groups. An arbitrary group membership may not elicit meaningful connotations regarding the real status of the group outside the temporary experimental manipulation. In fact, research has shown that real world ethnic groups do not follow the pattern that has been prescribed by Social Identity Theory and verified through the minimal group paradigm (Bohon et al., 1993; Branthwaite & Jones, 1975; Espinoza & Garza, 1985; Garza & Santos, 1991). In general, studies using real world status differences have illustrated that the low status minority groups (specifically, Hispanic participants or Welsh participants) exhibited a higher level of social competition toward their high status out-group (White participants or English participants), than the out-group did toward them. Again, the minimal group

paradigm would predict the opposite to happen, that is, the high status majority group should exhibit more social competition than the low status minority group.

The discrepancy that lies between findings from experiments utilizing the minimal group paradigm and those utilizing real world ethnic groups is within a small distinction in Social Identity Theory (Santos, Garza, & Bohon, 1994; Tajfel & Turner, 1986). That is, low status group members should recognize the out-groups' superiority (by exhibiting out-group favoritism) and high status group members should acknowledge their own superiority over the out-group (by exhibiting social competition: in-group bias/out-group discrimination) only under a *consensual status hierarchy*. In other words, high and low status groups will act accordingly when they believe and agree with the high or low status that has been cast upon them. This explains why in the minimal group paradigm (when status is assigned arbitrarily and is personally meaningless) people have accepted the status position they were assigned. However, this does not fully explain why real world ethnic groups (low status groups particularly) have displayed such intense social competition against the higher status groups.

Part of this discrepancy is also answered by the concept of status stability or status legitimacy. It seems that being categorized as a low status group or maintaining a negative social identity is not enough in itself to evoke social competition (Turner & Brown, 1978). The apparent catalyst for engaging in social competition by minority groups is the status differential (i.e., being deemed a "low" status group compared to some "high" status group), when this "difference" in status is *not* consensual. In other

words, if the minority group sees the status label provided for them by other members of society as unstable or unjust, they will engage in social competition.

In a system that is perceived as fair, the high status group believes they are justly superior to the low status group; there is no option for any other group to be more superior to them. Additionally, the low status group does not see any option for their own group to outrival the high status group. Both groups believe the system operates on reliable criteria. This, Turner and Brown (1978) deemed a legitimate or stable (Bohon et al., 1993; Santos et al., 1994) system. Concordantly, members of the high status group show more in-group bias than members of the low status group. (Bohon et al. 1993; Sachdev & Bourhis, 1987; Santos et al., 1994; Turner, 1978; Turner & Brown, 1978).

However, when the system is perceived as illegitimate, the status differential (i.e., difference in status) is seen as inequitable or unjust. Here the high status group members fear that their status may be in danger, while the low status group members believe that they are akin to the high status group. Since the status differentials are based upon unreliable criteria, both groups engage in social competition (Turner & Brown, 1978). Social competition is a means for each group to possibly save face and gain superiority over the other group. That is, the low status group may engage in social competition as a method to change the group status position and the high status group may engage in social competition to preserve the group status position.

Some of this theory can be elucidated concretely by way of a real experimental example. Santos and associates (1994) found that social competition (in-group bias, out-group discrimination) was influenced by factors such as real world status (ethnic minority

versus majority), manipulated status rank (high status versus low status), and status stability (whether the manipulated status was legitimate, i.e., valid or not). To initially examine the interaction of these factors the researchers created a bogus *Socialized Creativity* task (see Bohon et al., 1993; Garza, Romero, Cox & Ramirez, 1982; or Santos et al., 1994). In this task, participants of both Mexican American and White backgrounds read about a hypothetical dilemma. The dilemma posed described an indigenous society experiencing malnutrition and high mortality rates. Participants then learned that two groups of students previously came up with solutions to help this society. The solutions were written by the researchers and pilot tested for equality, however, the participants were speciously told that one solution was written by a group of Mexican Americans and the other was written by a group of Whites (the assigned ethnicity to each solution was counterbalanced by participant ethnicity). The participants had to rate the hypothetical participants' solutions after a few manipulations. Namely, participants were either told that groups of their own ethnic group generally perform superior on the task (i.e., better than the other ethnic group, the out-group); this was the high status condition. Or they were told the opposite, such that their in-group performs at an inferior level (i.e., worse than the out-group); this was the low status condition.

Subsequently, participants were informed of whether this high/low status information was reliable and valid (stable conditions) or that it was unreliable with equivocal results (unstable conditions). This stability manipulation (stable vs. unstable) was intended to represent the belief of whether the high or low status manipulation was legitimate or not. Finally, participants rated the solutions based on a point system

(Tajfel's matrices, 1978) that represented in-group bias/out-group discrimination (awarding the in-group more points, and the out-group fewer points), group equality (where neither group is rated better than the other) or out-group favoritism (awarding the out-group more points).

Santos and colleagues (1994) found an interactive effect of ethnicity, status, and status stability (or legitimacy). When White participants were informed their group was better at the socialized creativity task (high status manipulation) in both valid and invalid (stable or unstable) information manipulations, they engaged in social competition with the out-group (Mexican Americans). This is because in both stable and unstable conditions, the White participants were told their group was better, so they engaged in social competition to maintain that status. Further, when White participants were told that their in-group did not perform better than the out-group at the socialized creativity task (low status manipulation), yet that this information had been found to be equivocal (unstable or illegitimate information), they also engaged in social competition to perhaps change the low status position since the information was not justifiable. However, when White participants were told that their group did not perform well at the task (low status) and that this information had been validated (stable or legitimate information), they did not engage in social competition; in fact, they showed slight favoritism toward the Mexican American out-group.

Interestingly, Mexican American participants showed social competition (in-group bias, out-group discrimination) in every condition (i.e., high and low, stable and unstable conditions). The only condition where White and Mexican American

participants differed was the low-status, stable condition. In this condition participants were told their in-group does not typically perform as well as their out-group in the Socialized Creativity task and that this information had been replicated, therefore it was valid or legitimate information. Again, White participants showed slight out-group favoritism in this condition showing that they accepted the information given to them by the researchers; however, Mexican American participants displayed social competition here, exhibiting in-group bias/out-group discrimination.

This different response pattern by the Mexican American participants was explained as a result of a "response in reference to a threatened real-world minority status" (Santos et al., 1994, p. 455). Since Mexican Americans have had a history of being discriminated against, which is a phenomenon that may not be perceived as legitimate or valid, this real world ethnic group separation (made apparent in the experiment by ethnic differences) may have caused this group to perceive the unfavorable experimental information as illegitimate (it was not consensual). In other words, the Mexican American participants were more ready to perceive the unfavorable information as illegitimate compared to the White participants because they have learned to do so more often in order to maintain a positive social identity (explained earlier by Tajfel and Turner's Social Identity Theory, 1986).

The work leading up to here has examined status differentials in real-world ethnic groups (as compared to in the minimal group paradigm), and manipulated status and status stability (Bohon et al., 1993; Espinoza & Garza, 1985; Garza & Santos, 1991; Santos et al., 1994). This specific work on salient ethnicities within the US has only

included White and Mexican or Hispanic Americans. Because there are parts of the United States where groups of more diverse ethnic populations exist it is important to understand how various groups with differing levels of social and minority status display social competition with others within this paradigm. For example, will other minority groups (e.g., Asians) display the same pattern of social competition that was exhibited by Mexican Americans? Will minority groups differ in social competition when paired with another minority of a different ethnic background (e.g., Hispanic vs. Asian)? By incorporating another ethnic group into this paradigm we can examine not only how various minority groups display social competition with the majority group, but also whether this social competition changes when two minority groups are paired with each other. The inclusion of the Asian American group adds an interesting element to the current study because they are considered a high status group like Whites (Wong et al. 1998), yet they are also considered a minority like Hispanic Americans (Census, 2000).

To examine these issues, the current experiment will adopt the design set forth by Santos et al. (1994) with White and Hispanic participants for replication and the addition of an Asian American group (please note, Hispanics such as Mexican American or Puerto Rican are used in the current study rather than only Mexican Americans, in order to utilize as many Hispanic students as possible). Specifically, the current investigation aims to examine the possible interactive effects of three ethnic groups (White, Hispanic American, Asian American,) and status stability on social competition. A subsequent aim is to determine whether each ethnic group differs in the exhibition of social competition toward the different out-groups. For the current investigation, only low-

status manipulations will be administered since past research indicated that both minority and majority groups displayed social competition in high status conditions (Santos et al., 1994); the interest in the current study is with the condition where the minority and majority groups have differed, which is in the low status conditions. Again, in the previous investigation, Hispanic American students exhibited social competition in both stable and unstable low status conditions, however White students only exhibited social competition in the unstable low status condition and not the stable low status condition. Accordingly, in the current experiment each ethnic group will experience either a *stable* low status manipulation (where the status assigned is considered valid or legitimate) or *unstable* low status manipulation (where the status assigned is considered invalid or illegitimate).

Furthermore, it has been established that Social Identity Theory argues that an individual maintains his or her social identity through memberships in groups (Tajfel & Turner, 1986). However, the theory does not go into detail about how the importance of those group memberships influences the individual to engage in social competition (in terms of real world group identification as opposed to arbitrary group identification). In the current investigation the social group provoked for experimental examination is one's ethnic group. It is possible that people differ in terms of how important their ethnicity is for describing oneself. If this assumption is correct, then it is further expected that people may differ in social competition based on how important their ethnicity is in describing themselves. A more specific conjecture is that those who strongly identify with their ethnicity (i.e., find it important in defining oneself) will feel more threatened by

information that allows the possibility of an out-group outperforming the in-group. Subsequently, this may influence an individual to engage in social competition more so than when ethnicity is not reported as very important in defining oneself. Therefore, a second aim of this study is to determine whether people do report differences in the importance of their ethnic group for defining the self and whether this difference will affect the likelihood of engaging in social competition.

Hypotheses

The initial research question is whether any of the ethnic groups will engage in social competition differently toward the two out-groups (Hypothesis 1). Additionally it is hypothesized that there will be an interaction between participant ethnicity and status stability (Hypothesis 2). As a subsequent exploratory hypothesis, the importance of an individual's ethnicity is expected to provoke differences in social competition across each ethnic group (Hypothesis 3).

Ethnic Out-groups (Hypothesis 1)

It is possible that participants will engage in social competition differently depending on the ethnicity of the out-groups. Specifically, will the minority participants (e.g., Hispanics) engage in a different pattern of social competition when the out-group is another minority (Asian) versus a majority (Caucasian)? There are not specific predictions pertaining to the direction of this effect because it is an exploratory question.

Participant Ethnicity (Hypothesis 2)

White group. Since the White ethnic group (in general) has been deemed a high status group and their status is perceived as legitimate (Santos et al., 1990) they are

expected to accept their manipulated status position in the experiment at face value. This means in the Stable, low-status condition, White students are expected to acknowledge the out-groups' supposed superiority at the task, and not engage in social competition with either the Hispanic or Asian American out-group (Bohon et al., 1993; Sachdev & Bourhis, 1987; Santos et al., 1994; Tajfel, 1978; Turner & Brown, 1978).

In the Unstable, low-status condition, White participants are expected to engage in social competition because they should perceive the unstable status manipulation as invalid or illegitimate, thus giving their own group room to "preserve" superiority over the out-groups (Santos et al., 1994; Tajfel, 1978; Tajfel & Turner, 1986; Turner & Brown, 1978).

Hispanic American group. Research has indicated that Hispanic Americans typically view their low social status differential as illegitimate or unfair (Santos et al., 1990). Therefore in the stable, low-status condition, this perception should influence Hispanic American participants to engage in social competition with both of the high status out-groups (i.e., the White and Asian American participants; Bohon et al., 1993; Espinoza & Garza, 1985; Garza & Santos, 1991).

In the Unstable, low-status condition the Hispanic American participants are expected to engage in social competition. This is because they should also perceive the unstable status manipulation as invalid or illegitimate, thus giving their own group room to gain superiority over the out-groups (Santos et al., 1994; Tajfel, 1978; Tajfel & Turner, 1986; Turner & Brown, 1978).

Asian American group. There has not been work within this paradigm including an Asian American group, thus it is unclear how this group will react to the proposed manipulations. Because Asian Americans perceive their group as maintaining a higher status than Whites and other minority groups (Hispanics among them; Wong et al., 1998) it can be expected that they may exhibit social competition in a similar pattern to Whites (i.e., since these groups do not currently need to fight for status in society to maintain a positive social identity). This implies that the Asian American participants will accept the stable, low status information at face value and not engage in social competition with either the White or Hispanic out-groups.

However, Asian Americans are also considered a minority group in the U.S. (Census, 2000) Therefore, there is also a possibility that a minority status will influence Asian American participants to exhibit social competition in a comparable fashion to Hispanic Americans, where they compete with the out-group within the stable, low-status condition.

As with the White and Hispanic groups, the Asian American participants are expected to engage in social competition in the Unstable, low-status condition. This is because they should perceive the unstable status manipulation as invalid or illegitimate, thus giving their own group room to gain or preserve superiority over the out-groups (Santos et al., 1994; Tajfel, 1978; Tajfel & Turner, 1986; Turner & Brown, 1978).

Identity Importance (Hypothesis 3)

Lastly, the above pattern of social competition will be examined as a function how important ethnicity is in identifying oneself. If identity importance is a notable

factor in determining whether an individual will engage in social competition, then there should be a significant difference in social competition between those who strongly identify with their ethnicity and those who do not. Specifically, when ethnicity is important to an individual's self-identity, there should be more motivation to gain superiority over the out-group by engaging in social competition. On the other hand those who do not feel ethnicity is important in defining the self, should accept the out-groups' supposed superiority at face value and not engage in social competition.

Method

Design and Participants

To examine these issues, a 6 x 2 between-subjects design was used. That is, there were three levels of the participants' ethnic background (White, Hispanic, and Asian American) each matched with two levels of the possible out-group members (White, Hispanic, and Asian American), and two levels of status stability (Stable vs. Unstable). This design is unbalanced in nature because each ethnic group can only be paired with two other out-group members; namely, this design creates 12 groups total, six for the stable, low-status condition and six for the unstable, low-status condition. Thus Table 1 illustrates all possible condition combinations.

Low status rank was manipulated via bogus feedback regarding the performance of the participants' in-group compared to an out-group on a hypothetical socialized creativity task (i.e., participants were informed that their group performed at an inferior level compared to the out-group and subsequently, they learned that this information is either valid or invalid). Participants rated the hypothetical problem-solvers on their

Table 1
In-group/Out-group Pairs for each Participant Ethnicity and Status Stability Manipulation

	Participant Ethnic In-group/Out-group Pairs		
Status Stability	White In-group	Asian In-group	Hispanic In-group
Stable	Hispanic Out-group	White Out-group	Asian Out-group
	Asian Out-group	Hispanic Out-group	White Out-group
Unstable	Hispanic Out-group	White Out-group	Asian Out-group
	Asian Out-group	Hispanic Out-group	White Out-group

solution to the task. The dependent variable, social competition is defined as in-group bias and out-group discrimination. This was measured with Tajfel's (1978) rating scales of in-group/out-group performance.

A total of 229 students from San Jose State University (SJSU) participated for partial credit in an Introductory Psychology course. The participants ranged in age from 18 to 48 years ($M = 20.68$). All volunteers completed the experiment for participation, however some were dropped from the analyses if they were not of White, Hispanic or Asian ethnic groups.

Materials

A demographics questionnaire contained questions pertaining to participants' age, gender, and self-described ethnicity, parents' native country, and the culture with which the participant identifies (see all the materials in Appendix A).

A *Socialized Creativity Booklet* contained 16 pages compiled with the following components (a) an introductory statement about the experiment (b) the socialized creativity test (Santos et al., 1994) and experimental manipulations (c) manipulation checks (d) the dependent measures.

The introductory statement described the nature of the study, the participants' involvement in it, and included a general description of socialized creativity. For the Socialized Creativity task participants read that they were to determine whether various ethnic groups (e.g., White, Hispanic, and Asian) differ in their ability to come up with a solution on the Socialized creativity task. Specifically, participants rated the bogus solutions of previous ethnic groups' resolutions to the Socialized Creativity task.

The Socialized Creativity task included a hypothetical social dilemma and two solutions created by Garza and others (1982). Participants read that two (bogus) students, people of differing ethnic populations (where the use of each ethnic population in this study was counterbalanced and represented equally) created solutions to a socio-moral dilemma where a developed nation discovers an indigenous society suffering from short life spans, malnutrition and high mortality rates due to the lack of modernized technology (Bohon et al., 1993; Garza et al., 1982; Santos et al., 1994). One of the solutions included intervention with the use of medical technology while the other advocated the use of agricultural technology. Garza and his colleagues previously tested these to ensure the equality of the two fictitious solutions (this was also done with a pilot test at SJSU: all T-tests were > .05, alpha = .88), thus any differences in ratings for the current experiment can be attributed to the participants' social competition with the ethnicity associated with creating the solution.

At this point, the experimental manipulation was merely the out-group ethnicity of the group that purportedly completed the other solution.

Importance of Ethnic Identity. At the end of the demographics questionnaire, participants rated on a 5-point Likert scale how important their ethnicity is in defining themselves (where 1 = not very important, 5 = very important). At the end of the *Socialized Creativity* packet, a subsequent question, "How important is your ethnic background to you?" was included based on a 5-point Likert scale (1 = not very important, 5 = very important).

Dependent Measures. Participants' ratings of the in-group and out-group solutions were measured with Tajfel's (1978) matrices. There were four possible strategies for participants to adopt in rating the solutions. Tajfel called these: (a) Maximum Ingroup Profit (FAV) – where a participant can award the highest absolute number of points to the in-group; (b) Maximum Difference (MD) – a participant can favor the in-group by maximizing the difference between the in-group and out-group; (c) Equality (EQ) – equal number of points can be awarded to both the in-group and out-group; or (d) Maximum Joint Profit (MJP) – the participant can award the largest combined possible point values to both the in-group and out-group. In-group bias or social competition is then illustrated when a participant exhibits a positive value/score the FAV or MD point systems (a negative value indicates no social competition, or more specifically, out-group favoritism).

When participants were exposed to the hypothetical groups that completed the socialized creativity task, they were assigned to each ethnicity equally. For example, Asian American participants completed the ratings with the belief that an Asian American and a Hispanic American completed the task, and an Asian American and a White American completed the task. Each out-group will be represented equally like this for each other ethnicity. Due note however, that each individual only received the solutions from one dyad, as this was a between-subjects measure.

Procedure

The conditions were run in groups of 1 to 10 people. After the informed consent and appropriate participant paperwork were completed, participants completed the

demographics questionnaire. A filler task was then completed (name the United States in alphabetical order), which allowed the experimenter time to gather the appropriate manipulations based on the participants' self-identified ethnicity. Subsequently, the Socialized Creativity packets were passed out (participants in a single session got either stable or unstable manipulations within their packets). As the packets were distributed, the experimenter explained that all materials must be completed in the order they appeared in the packet and that they must not skip ahead before finishing each prior sheet. The experimenter reminded the participants that their answers were anonymous and they could refrain from continuing if they felt uncomfortable with any aspect of their activity in the experiment.

After the introductory statement, participants learned that for a previous experiment, two students, one representing their in-group and one representing an out-group had to come up with written solutions to a socialized creativity problem-solving task. Again, Garza and others (1982) created this hypothetical social skill as a way to avoid any possible preexisting stereotypes held by the participants regarding common task abilities based on ethnicity.

Status rank manipulation. The ethnic groups' status rank was manipulated by informing participants of the past performance of the hypothetical students by ethnicity. Again, all participants received the low status manipulation, which alluded to the notion that in the past, the out-group performed better than the participants' in-group on the socialized creativity task.

Status stability manipulation. This subsequent manipulation was intended to inform the participant of whether the past findings of the status rank by ethnicity were legitimate. Participants in the *stable* conditions read that researchers consistently replicated the reported findings, that they were highly valid and reliable. There was a short note indicating that the current researchers basically believed that the contended group (out-group) would truly out perform the other group (participants' in-group). Participants in the *unstable* condition read that the research reporting ethnic differences on the socialized creativity task were only preliminary studies and they were rather inconsistent (i.e., unreliable and possibly not valid). A short statement followed indicating that the current researchers were not sure whether the ethnic out-group would truly perform better than the participants' in-group.

Participants then came to the socialized creativity task and the two solutions purportedly completed by two previous participants (one in-group and one out-group; counterbalanced by ethnicity). Participants evaluated the general quality of the solution to the problem-solving task based on several rating scales. That is, participants rated the performance of the in-group member and out-group member on their hypothetical solutions using Tajfel's (1978) matrices. Participants read that the numbers within the matrices represented the performance points they would like to assign to the problem solvers. The rating matrices presentation order was counterbalanced.

At the end of the study participants wrote out what they believed the study was about. If participants were proximate to the *true* purpose of the study, they were dropped from the analysis stage. Finally, all participants read through the debriefing information

and the experimenter ensured them at the end of the session that no ethnicity has been found to outperform the other on the hypothetical Socialized Creativity task.

Results

Before the analyses were run, forty-two participants were dropped from the data due to knowledge of the experimental purpose or belonging to two or more ethnic groups (e.g., a half Asian, half White student). Furthermore, 17 participants were excluded from the analyses because their scores on the dependent measures did not correspond with the dependent measure manipulation check, thus it was unclear whether or not they understood the procedures or directions. This left a total of 170 participants of which, 55 were White (42 female, 13 male), 26 were Hispanic (19 female, 7 male), and 89 were Asian (55 female, 34 male).

Tajfel's matrices (1978) were utilized to assess social competition (in-group bias/out-group discrimination). Specifically, there were three indices of social competition, the pulled score of FAV on MJP, the pulled score of FAV on EQ, and the pulled score of MD on MJP + MIP. The pulled score of FAV on MJP is a measure that assesses whether participants are exhibiting favoritism toward their in-group, FAV on EQ is another measure assessing favoritism toward the in-group, and MD on MJP + MIP assesses whether participants are exhibiting discrimination toward the out-group (see Tajfel, 1978; Santos, 1994). A description of the matrices and instructions for the calculation of the pulled scores can be found in Appendix B.

Hypothesis 1 (Examination of out-group ethnicity by status stability)

The first research question was aimed at determining whether each ethnic group would engage in social competition differently depending on the minority and/or social status of the out-group. There was not a predicted direction of this effect, however as an exploratory question there was interest in whether a minority group (Hispanics or Asians) might engage in social competition differently when paired with another minority group (Asian or Hispanic) as compared to a majority group (White).

To address the possible interaction between the out-group pairs and status stability, three separate 2 x 2 Multivariate Analyses of Variance (MANOVA) were conducted on three indices of social competition: FAV on MJP, FAV on EQ, and MD on MJP + MIP. That is, for White participants a 2 (Hispanic vs. Asian) by 2 (stable vs. unstable) MANOVA was conducted. The out-group by stability interaction did not yield significance, $F(3, 50) = 1.59$, $p = .20$, $R^2 = .09$, and there were no significant differences in social competition for the out-group main effect $F(3, 50) = .36$, $p = .78$, $R^2 = .02$ or for the stability main effect $F(3, 50) = .36$, $p = .78$, $R^2 = .02$.

For Hispanics, a 2 (White vs. Asian) by 2 (stable vs. unstable) MANOVA was conducted and again the interaction and main effects of out-group or stability did not yield significant differences in social competition $F(3, 20) = 1.37$, $p = .28$, $R^2 = .01$, $F(3, 20) = .69$, $p = .57$, $R^2 = .09$, $F(3, 20) = .05$, $p = .99$, $R^2 = .01$ respectively.

Finally, the 2 (White vs. Hispanic) by 2 (stable vs. unstable) MANOVA for the Asian group was conducted and also did not yield a significant interaction $F(3, 82) = .49$, $p = .69$, $R^2 = .02$ or any significant main effects for out group $F(3, 82) = 1.01$, $p = .39$, R^2

= .04 or stability F (3, 82) = .22, p = .88, R^2 = .01. See Table 2, 3, and 4 for the overall means of each group.

Overall each ethnic group did not engage in social competition differently toward the out-group pairs. From this it may be reasoned that the participants engaged in similar patterns of social competition for both possible out-groups, and therefore the data can be collapsed across the out-group variable to run the subsequent analysis.

Hypothesis 2 (Examination of participant ethnicity by status stability)

It was expected that there would be a two-way interaction between participant ethnicity and status stability, which would replicate the previous findings by Santos and colleagues (1994).

The first of these possible interactions was expected to manifest based on the following patterns. The White participants were not expected to exhibit social competition in the Stable Status condition; however, they were expected to engage in social competition in the Unstable Status condition. The Hispanic American participants were expected to show social competition in both the Stable and Unstable Status conditions. Finally, the Asian American participants were expected to show social competition in both the Stable and Unstable Status conditions if they respond similarly to Hispanic Americans, due to their minority status in the U.S. However, since Asian Americans maintain a high social status in the U.S. (Wong et al. 1998) it was also possible that they would engage in social competition similar to the pattern exhibited by White participants. If this is true, they should not engage in social competition in the

Table 2
Means and Standard Deviations on the Social Competition Indices for White Participants

		Measures of Social Competition					
Out-group		FAV on MJP		FAV on EQ		MD	
Stable condition	*N*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Hispanic	16	-2.44	4.19	-2.75	4.11	-1.50	3.71
Asian	15	-1.60	4.72	-1.27	4.18	-0.93	7.04
Unstable Condition							
Hispanic	12	-0.92	4.76	-0.17	4.39	0.17	6.44
Asian	13	-2.46	4.41	-2.46	3.76	-3.31	5.92

Note: Positive values pertain to social competition; negative values pertain to out-group favoritism

Table 3
Means and Standard Deviations on the Social Competition Indices for Hispanic Participants

		Measures of Social Competition					
Out-group		FAV on MJP		FAV on EQ		MD	
Stable condition	*N*	*M*	*SD*	*M*	*SD*	*M*	*SD*
White	7	-0.43	1.40	-1.57	2.51	-0.71	2.75
Asian	5	2.40	5.55	2.20	5.54	0.00	3.24
Unstable Condition							
White	6	3.50	6.25	1.67	5.99	1.67	7.17
Asian	8	-0.63	3.07	-0.63	1.92	-0.88	4.58

Note: Positive values pertain to social competition; negative values pertain to out-group favoritism

Table 4
Means and Standard Deviations on the Social Competition Indices for Asian Participants

		Measures of Social Competition					
Out-group		FAV on MJP		FAV on EQ		MD	
Stable condition	*N*	*M*	*SD*	*M*	*SD*	*M*	*SD*
White	23	0.91	4.77	0.65	4.75	-0.30	4.03
Hispanic	20	-1.35	4.38	-0.95	2.16	-1.80	5.47
Unstable Condition							
White	25	0.52	4.08	0.24	4.57	-1.12	5.69
Hispanic	20	0.30	2.39	0.35	1.69	-0.45	4.39

Note: Positive values pertain to social competition; negative values pertain to out-group favoritism

Stable Status condition, and should engage in social competition in the Unstable Status condition.

The first analysis examined the two way interaction between Participant Ethnicity and Status Stability to examine the described pattern above and to determine whether the current study replicated the study by Santos and associates (1994). To do this a 3 (Participant Ethnicity) x 2 (Status Stability) MANOVA was conducted where Participant Ethnicity was collapsed across each out-group pair. This analysis revealed a significant main effect for Participant Ethnicity, $F(3, 162) = 2.54, p < .05, R^2 = .05$. There was not a significant main effect for Status Stability $F(6, 326) = .19, p = .90, R^2 = .00$ or a significant Participant Ethnicity by Status Stability interaction $F(6, 326) = .13, p = .99, R^2 = .00$. This means overall, there were differences between one or more of the ethnic groups on at least one or more of the social competition indices.

First, to determine which social competition indices yielded significant differences between the ethnic groups, Analyses of Variance (ANOVA) were run for each index. As an aside, due to possible inflation of Type I error from running multiple univariate tests and having correlated dependent measures (see Table 5), a more conservative criterion for alpha was set such that $p < .02$ was the largest value accepted for significance (this stringent criterion was followed for the univariate F tests and simple comparisons).

The FAV on MJP and FAV on EQ indices yielded significant effects $F(2, 164) = 5.31, p < .01, R^2 = .06, F(2, 164) = 3.98, p < .02, R^2 = .05$, respectively. However, the MD on MJP + MIP index did not yield significant differences between the ethnic groups,

Table 5
Means, Standard Deviations, and Correlations of the Dependent Measures

	M	*SD*	FAV on MJP	FAV on EQ
FAV on MJP	-0.40	4.35		
FAV on EQ	-0.49	3.97	.87*	
MD	-0.95	5.16	.68*	.56*

$N = 170$; $^*p < .01$

$F(2, 164) = .58$, $p = .56$, $R^2 = .01$. Overall, this illustrates that the participants (White, Hispanic, Asian) differed in in-group favoritism, while they did not differ in out-group discrimination.

To determine which ethnic groups differed from the others on the two indices of in-group favoritism, subsequent simple comparisons were conducted between each ethnic group. For the comparison between White and Hispanic students, there was a significant difference in social competition on the FAV on MJP index (Tukey, $p < .01$), but not on the FAV on EQ index (Tukey, $p = .09$). In examining the means (see Table 6) Hispanic participants tended to exhibit more social competition ($M = .96$) than did the White participants ($M = ^{-}1.89$) only in the FAV on MJP index.

There was a significant difference in social competition between the White and Asian participants on both the FAV on MJP (Tukey, $p < .01$) index and the FAV on EQ (Tukey, $p < .02$). That is, Asian participants ($M = .15$ for FAV on MJP; $M = .10$ for FAV on EQ) engaged in more social competition than did the White participants ($M = -1.89$ for FAV on MJP; $M = -1.73$ for FAV on EQ). Finally, there were no significant differences in social competition (*n.s.* for both FAV on MJP and FAV on EQ) between the Hispanic and Asian participants (see the means in Table 6). Thus overall, the data show that both minority groups in the current investigation showed more in-group favoritism than did the majority group regardless of the status stability manipulation. This pattern of data only partially replicated the findings by Santos and colleagues (1994). That is, the fact that the minority groups (Hispanic and Asians; Hispanics were the replication) engaged in more in-group favoritism overall compared to the majority group (White) shares a

Table 6
Means and Standard Deviations on the Social Competition Indices for Participant Ethnicity and Status Stability

		Measures of Social Competition					
Out-group		FAV on MJP		FAV on EQ		MD	
Stable condition	*N*	*M*	*SD*	*M*	*SD*	*M*	*SD*
White	31	-2.03	4.40	-2.03	4.14	-1.23	5.48
Hispanic	12	0.75	3.79	0.00	4.29	-0.42	2.84
Asian	43	-0.14	4.68	-0.09	3.82	-1.00	4.76
Unstable Condition							
White	25	-1.72	4.55	-1.36	4.15	-1.64	6.30
Hispanic	14	1.14	4.96	0.36	4.14	0.21	5.73
Asian	45	0.42	3.40	0.29	3.55	-0.82	5.11

Note: Positive values pertain to social competition; negative values pertain to out-group favoritism

similarity with the previous study, however the lack of an ethnicity by stability interaction also shows a lack of complete replication.

Hypothesis 3 (Examination of identity importance)

The pattern of social competition was also examined as a function how important ethnicity is in identifying oneself. If identity importance is a notable factor in determining whether an individual will engage in social competition, then there should be a significant difference in social competition between those who strongly identify with their ethnicity and those who do not.

To address this hypothesis two questions assessing ethnic identity, which were significantly, positively correlated ($r = .66, p < .001$) were combined to reflect one construct with which to split the sample population utilized. Specifically, high and low groups were created by dichotomizing identity importance, based on the two 5-point Likert scale questions. Those who found their ethnic identity to be very important (a combined score of 8 or higher) were coded as high identifiers and those who did not find their ethnic identity very important (a combined score of 6 or lower) were coded as low identifiers.

Again, it was expected that those who found their ethnic identity very important in defining oneself would exhibit more social competition compared to those who did not find their ethnic identity important in defining the self. To assess the effect of identity, a one-way (with high and low levels) MANOVA, was conducted to determine if the importance of the participants' ethnic identification influenced social competition.

A significant multivariate main effect for Identity was revealed $F(3, 166) = 3.07$, $p < .05$, $R^2 = .05$. Thus there are significant differences on one or more of the social competition indices between those who strongly identified with their ethnicity and those who did not strongly identify with their ethnicity.

The univariate F tests were subsequently conducted to determine which social competition indices (FAV on MJP, FAV on EQ, MD on MJP + MIP) generated a significant main effect of the Identity variable. Again, due to the possible inflation of Type I error from running multiple univariate tests and having correlated dependent measures, a more conservative criterion for alpha was set such that $p < .02$ was the largest value accepted for significance.

There was a significant effect on each index of social competition, FAV on MJP $F(1, 146) = 9.30, p < .01, R^2 = .06$; FAV on EQ $F(1, 146) = 6.48, p < .01, R^2 = .04$; MD on MJP + MIP $F(1, 146) = 7.89, p < .01, R^2 = .05$. The means in Table 7 indicate that overall, people who reported that their ethnic identity was highly important in defining the self tended to exhibit more social competition (in-group favoritism and out-group discrimination) than those who reported that their ethnic identity was not highly important in defining the self.

Dependent Measures Corroboration

Finally, because the matrices for assigning points to the in-group/out-group pairs can seem confusing for participants, two scales were included where participants provided their overall rating of the in-group and out-group based on the performance with

Table 7
Means and Standard Deviations on Social Competition Scores for High and Low Ethnic Identifiers

		Indices of Social Competition					
		FAV on MJP		FAV on EQ		MD	
	N	*M*	*SD*	*M*	*SD*	*M*	*SD*
High Identification	93	0.47	4.63	0.31	4.28	-0.25	5.17
Low Identification	77	-1.45	3.75	-1.45	3.33	-1.78	5.06

Note: Positive values pertain to social competition; negative values pertain to out-group favoritism

the socialized creativity task. For example, participants indicated on a 5-point Likert scale how creative, intelligent, and logical the in-group/out-groups' solution was based on the skill of socialized creativity. These scales were a "simpler" way of assessing whether participants thought one's in-group performed better, equal to or worse than the out-group. A composite score was created which indicated whether the participant thought the out-group performed better, the in-group performed better or whether they thought both groups performed equally. The composite score was significantly, positively correlated with the pattern of results from Tajfel's matrices ($r = .81, p < .001$). Furthermore, each analysis was conducted with the composite score as the dependent measure and all analyses exactly mirrored the analyses where the pulled matrix scores were used as the dependent measures. This provides more comfort in believing the participants understood the experimental task and matrices.

Discussion

The analyses testing the first group of hypotheses did not yield any significant effects for ethnic out-group or status stability. The purpose of these analyses was to determine whether there were any differences in social competition when a minority rated the in-group with another minority out-group versus a majority out-group. Since there were no significant effects apparent from these analyses, it may be concluded that the students at SJSU do not differentially favor their own group or discriminate against out-groups based solely on the minority/majority status of the out-group for the comparison. However, these conclusions may also be premature due to the small sample size for the Hispanic American group.

Although none of the overall analyses turned out significant, the means show a slight trend worth discussing, especially for the Hispanic group since there were so few Hispanic participants. In examining the means in Table 2 we see that the White participants tended to show out-group favoritism to both the Hispanic and Asian out-groups; the highest overall pattern of this is observed with the pairing of the Asian group in the Unstable condition. Table 3 illustrates that the Hispanic participants tended to show more social competition toward the Asian out-group in the Stable condition, yet they tended to engage in more social competition with the White out-group in the Unstable condition. Finally, the Asian participants (see Table 4) tended to show slightly more social competition toward the White out-group compared to the Hispanic out-group in the Stable status condition, yet they rated both out-groups very closely in the Unstable condition. Again, none of these "trends" were significant and since there were so few participants representative of the Hispanic group these trends should not be held in confidence; further examining the variability in the data (from looking at the standard deviations) suggests drawing specific conclusions here is difficult.

To test the second group of hypotheses, interaction and main effects between participant ethnicity and status stability were examined and yielded a significant multivariate main effect of Participant ethnicity. The Univariate tests and simple comparisons demonstrated that Hispanic participants and Asian participants exhibited more in-group favoritism than did the White participants (the Hispanic and Asian participants did not differ from each other in their level of in-group favoritism). An interesting point is that none of the ethnic groups in the current sample differed

statistically in the level of out-group discrimination. This is an interesting point because the overall index of social competition is a composite of two indices assessing in-group favoritism (FAV on MJP & FAV on EQ) and one index assessing out-group discrimination (MD on MJP + MIP). The very definition of social competition is in-group bias (or favoritism) and out-group discrimination. It is unclear whether we should conclude that the "social competition" was different among these ethnic groups since there was no difference in out-group discrimination. Perhaps we must conclude only the "in-group favoritism" was exhibited differently.

This analysis yielding a significant main effect of ethnicity only partially replicated the previous findings by Santos and colleagues (1994). They found that Mexican American students tended to show more social competition overall than White students. However, they also found that Mexican American participants showed social competition in both Stable and Unstable Low Status conditions, whereas White participants exhibited social competition in the Unstable Low Status condition, but not in the Stable Low Status condition. In the current study this interaction was also an expected finding, yet it did not turn out to be significant. Again, the only finding that replicated was the main effect indicating that overall, Hispanic participants exhibited more in-group favoritism than did White Participants. For the current study status stability did not seem to differentially influence the two ethnic groups in their social competition.

Additionally, we found that Asian participants tended to exhibit more overall in-group favoritism compared to White participants. This added to the previous

investigation (Santos et al., 1994) and demonstrated that both minority groups (Hispanic and Asian) exhibited more in-group favoritism toward the majority (White) out-group than the majority group did toward the minority out-group. Thus we see that both minority groups responded similarly to the majority group and the majority group responded similarly to both minority groups.

There are several possible explanations for the *partial* replication of the study by Santos and colleagues (1994), for example a) statistical power, b) experimental manipulation, c) social desirability or d) illegitimacy beliefs by minority groups. The first two explanations seem to be the most fundamental in understanding the differences that exist between the current and previous experiments (Santos et al., 1994).

To address the first point, it was difficult to get access to Hispanic participants since SJSU only has roughly a 9% Hispanic population. It is suggested that 20 participants per experimental cell ought to be acquired for sufficient power with multivariate statistics (Tabachnick & Fidell, 2000); this standard was not achieved for the Hispanic cells in the current analyses. Therefore, the data may not be fully representative of what effects really exist. The second point reflects the possibility that the difference between the Stable and Unstable Status manipulations was not strong enough to provoke differences between these two status stability manipulations (this would explain why there was never an effect of the stability manipulation). The Stable manipulation merely stated that the research detecting the Low Status manipulation (i.e., ostensibly that the out-group performs better at the socialized creativity task than the in-group) was reliable and valid, while the unstable manipulation claimed this research was unreliable and

invalid. Perhaps the "validity" of the research was not of great concern or influence to the participants and thus this manipulation did not differentially affect the participants' behavior. Lastly, this manipulation may prove to be more effective if it is provided verbally rather than in written form, which is something to consider for future research in this area.

The third explanation suggests that the White participants were maintaining socially desirable responses. This is very likely since the current investigation was not entirely impervious to social desirability, which makes it possible that White participants showed out-group favoritism as a way to avoid appearing discriminatory or favoring their own group. The reason this is suggested is that there is a large amount of literature documenting in-group favoritism or in-group bias in White participants (e.g., Tajfel, 1978; Turner & Brown, 1978). Yet in the current study, when ethnic comparisons were made salient, in-group favoritism remained undetected.

The forth explanation is consistent with the logic expressed by Santos and associates (1994). They reasoned that the Mexican American participants exhibited more social competition in their study due to a result of a "response in reference to a threatened real-world minority status" (Santos et al., 1994, p. 455). It was suggested that Mexican American participants perceive the history of discrimination for their group as illegitimate. Thus when the experimental manipulations suggested their group was not as good at the socialized creativity task it may have caused this group to perceive the unfavorable experimental information as illegitimate as well. In other words, the Mexican American participants were more ready to perceive the unfavorable information

as illegitimate compared to the White participants because they have learned to do so more often in order to maintain a positive social identity.

This reasoning may be true for Asian American participants as well since they also demonstrated more in-group favoritism compared to the White participants. That is, the Asian Americans may have also showed in-group favoritism as a result of a heightened salience toward illegitimate beliefs about the status of their group. Thus in the low status manipulation the Asian participants were more readily prepared to perceive the unfavorable information as illegitimate and engage in in-group favoritism as a means to maintain a positive social identity. Overall, if confidence is assumed in the current results it may be concluded that the minority groups exhibited in-group favoritism as a means of maintaining a positive social identity whereas the explanation for the majority group is less clear. It may be that the majority group is consciously attempting to be overtly unbiased, thereby engaging in out-group favoritism shows agreement that the out-group is better at socialized creativity. Or perhaps the social identity for most White students is high regardless of their purported performance on socialized creativity, thus there is no need to engage in social competition.

These possibilities suggested with the fourth explanation are reflected in the notion proposed by Santos and associates (1994) such that the perceived status differential between the majority and minority groups is what elicits the distinct patterns of social competition. In the current study, two questions were included near the end of the participants' packet to better understand this interpretation. For example, one question read: *How do you think the average US citizen perceives the status of your*

ethnic group compared to the status of (the out-group)? Answer this question based on the statement and scale to follow. Compared to the status of (the out-group), Americans perceive the status of my ethnic group as... A Likert scale followed ranging from 1 (much worse) to 5 (much better), where the middle score was termed "equal". A subsequent question followed pertaining to how the participant thought people specifically from the Bay Area perceived the status of their group compared to the out-group. These questions were included to get at the participants perception of the status differential between their in-group and the out-group they were paired with.

To assess whether the status differentials (i.e., the participants perception of whether society perceives the status of their group as better than, equal to, or worse than the status of the out-group) had any influence on social competition, analyses were run with the three social competition indices as the dependent measures and three levels of the status differential as the independent measure. There were no significant differences in social competition between the participants who thought society perceived their group's status as better than, equal to, or worse than the status of the out-group. This brings into question whether it is really the status differential that truly influences the difference in social competition between real-world social groups. Perhaps the difference in social competition between real-world social groups is better explained by how important the groups' ethnic social identity is in defining the self.

The concept of identity importance was addressed in the third hypothesis. The prediction that participants who found their ethnic identity very important in defining themselves would engage in more social competition than those who do not find their

ethnic identity important in defining the self was supported in the current study. This finding suggests that those who highly value a particular aspect of the self (like ethnic identification) are more willing to defend (show social competition) the social identity under threat (through the low status manipulation). It is possible that those with a high identification value are more threatened by the low status information than those with a low identification value, or perhaps the threat seems more salient to those with a high identification value.

To further examine how identity importance influenced the results, the data were examined as a function of ethnicity and those who maintained high and low value for their ethnic identification. Specifically, the percentages of each group were observed (see Table 8) and from this, it is very clear that most of the ethnic minority participants considered their ethnicity very important in defining the self, whereas most of the ethnic majority did not consider ethnicity very important in defining the self. This trend also corresponds to the effect of ethnicity found in the analysis that addressed the second hypothesis. That is, Hispanic and Asian participants showed more in-group favoritism than did their White counterparts, these two groups also exhibited a tendency to highly identify with their ethnicity as a means to define the self, and those who highly identify with their ethnic identity also tended to exhibit more social competition than those who do not. Thus it seems there is a relationship between being an ethnic minority and finding importance in using ethnicity as a way to define the self.

Again, it makes sense that the importance of one's social identity affects the level of social competition in which an individual will engage. In considering the example

Table 8
Ethnic Breakdown of High and Low Ethnic Identity Importance

	White	Hispanic	Asian
High Identity Importance	32.1%	76.9%	62.5%
Low Identity Importance	67.9%	23.1%	37.5%

from the introduction, two teachers had the cumbersome task of rating two students who were unquestionably similar in their athletic and scholastic abilities. It was noted that one teacher maintained a hobby reflective of her ethnic heritage (e.g., she collected related artifacts), while the other teacher maintained many hobbies, which were not merely reflective of her ethnic heritage. The suggestion is that the first teacher valued her ethnicity very highly and subsequently rated the student who shared a similar ethnic background as slightly better than the other, despite the students' similarities. Yet the second teacher, who did not necessarily find her ethnicity important in defining herself, simply rated the two students as equal (suggesting other criteria, or teachers must be used to distinguish between the two students). Although a generalization such as this may not be completely warranted from the methodology followed in the current investigation, the example illustrates a plausible construct. The current findings on Identity Importance suggest that this concept is worthy of further investigation in its influence on social competition.

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Appendixes

Appendix A

Sample of Participant Materials

Before completing the study, please take a few moments to answer some questions about yourself.

Age: _____Gender: _____ Major: _____ Year in school: _____

Please specify your race and ethnic origin below. Please be as specific as you can. For example, mark your general race category (as indicated by the bold), then further specify your ethnicity from the options in the subcategories beneath the bold. The response options provided are examples, they do not represent the completeness of all possible ethnicities. If your ethnicity is not listed, please mark the "other" box and write your ethnicity on the line provided. (The race/ethnic categories are listed according to the U.S. census bureau, 2000)

☐ **American Indian or Alaska Native** (originating from North, South or Central America)
- ☐ Tribe _____

☐ **Asian** (originating from Far East, Southeast Asia, or the Indian subcontinent)
- ☐ Asian Indian
- ☐ Chinese
- ☐ Filipino
- ☐ Japanese
- ☐ Korean
- ☐ Vietnamese
- ☐ Cambodian
- ☐ Pakistani
- ☐ Thai
- ☐ Other_____

☐ **Black (or African American)** (originating from black racial groups of Africa)
- ☐ Kenyan
- ☐ Nigerian
- ☐ Haitian
- ☐ Other_____

☐ **Hispanic or Latino** (originating from Mexico, Puerto Rico, Central & South America)
- ☐ Mexican
- ☐ Puerto Rican
- ☐ Cuban
- ☐ Other_____

☐ **Native Hawaiian or Pacific Islander** (originating from Hawaii, or other Pacific Islands)
- ☐ Native Hawaiian
- ☐ Guamanian
- ☐ Samoan
- ☐ Tahitian
- ☐ Fijian
- ☐ Other_____

☐ **White** (originating from Europe, Middle East, or North Africa)
- ☐ Italian
- ☐ Irish
- ☐ German
- ☐ Swedish
- ☐ English
- ☐ Welsh
- ☐ Lebanese
- ☐ Polish
- ☐ Arabian
- ☐ Other_____

In what Country were you born?_____

In what Country was your Mother born?_____ & your Father? _____

In what Country were your grandparents born?_____

Do you identify with one specific ethnicity? _____ If so, which?_____

Based on the scale below, how important is your ethnicity in defining yourself?

1	2	3	4	5
Not Very Important				Very Important

Socialized Creativity (Adapted from Santos, Garza, & Bohon, 1994)

Interpersonal success is an essential component of a person's overall measure of success. Why do some people seem to know how to behave in every situation? What kinds of decisions lead to the appropriate behavior? These are the key questions that make up the area of Socialized Creativity. Socialized Creativity is a process that involves evaluation and decision. In every situation one must realize needs, gather information, imagine alternatives, make decisions, and act.

Socialized Creativity is a result of learning. Previous research has shown that certain cultures encourage Socialized Creativity skills more than others, through interpersonal interaction (Harris & Lopez, 1984). In addition, these skills are positively correlated with differences in interpersonal success (Rodrigo & Larson, 1987).

This study is part of an ongoing research project exploring the area of Socialized Creativity. Your role is to rate two groups on their solutions to a Socialized Creativity task. You will be provided with the hypothetical Socialized Creativity dilemma and the solutions generated by two groups (Asian American & Hispanic American). You are to base your rating scores on the following criteria: (1) the soundness of reasoning, (2) the originality of the solution, (3) its appropriateness, and (4) the quality of the outcome.

To ensure that you feel comfortable with answering all of the questions honestly, the information that you provide will be kept confidential. Furthermore, you are free to withdraw yourself from the study at any time.

The current investigation is part of an ongoing research project. Last semester, we had groups of students come up with solutions to a problem for an indigenous population that was experiencing high mortality rates. We are currently interested in comparing these students' responses to see if we can corroborate previous research findings in a similar area. We need a general idea of how people perceive the competence of these students in their socialized creativity skills. Therefore, your job is to rate the quality of two students' socialized creativity solutions. To provide some background information, past research findings suggest that there is an ethnic difference between Asian Americans and Hispanic Americans in their Socialized Creativity skills. For example, research has shown that Asian Americans perform better than Hispanic Americans when it comes to devising solutions to Socialized Creativity tasks.

(Between-subjects variable: Status Stability; Stable condition):

This ethnic difference found in previous research has been demonstrated consistently and has been deemed reliable and valid. Because the past research has established this finding to be reliable and valid we also believe that Asian Americans will create better solutions to the Socialized Creativity task than Hispanic Americans.

(Between-subjects variable: Status Stability; Unstable condition):

This ethnic difference found in previous research only reflects preliminary findings and the findings have mostly been inconsistent in nature; in other words, they are unreliable and invalid. Because the past research has not established reliable and valid support for this finding we are unsure whether Asian Americans will truly create better solutions to the Socialized Creativity task than Hispanic Americans.

The following are the Socialized Creativity situation and dilemma presented to the previous groups:

Socialized Creativity Situation

An aboriginal group of people with a unique culture has recently been discovered in a remote area. The society is a non-industrialized one, in which family and tradition are the most important socializing forces. These forces provide the individual with a sense of belonging and purpose. Families are especially supportive and affectionate. Religion is another pervasive factor in daily living. It emphasizes contentment and mysticism without reference to guilt or imperfection.

The region that the people inhabit is isolated from any sophisticated technology. The people use only primitive tools. A division of labor exists in which different artisans excel in their crafts. Each extended family lives in a small hut made of grasses, leaves, and tree trunks. The village controls a large area of land in which the women gather most of the daily food. The men go on periodic hunting trips in order to provide animal protein. Homicide and war are virtually unknown. However, the average life span is 37 years. The mortality rate is generally high due to childbirth, malnutrition, and infectious diseases.

Dilemma

Should the industrialized nation intervene and introduce technological advances to improve the quality of life and decrease mortality rate; or should it respect the sovereignty of an independent people?

The following two solutions are from two different groups of participants from a previous session. An Asian American group wrote one and a Hispanic American group wrote the other. Please evaluate their solutions in terms of the skill in Socialized Creativity that was exhibited. Remember that Socialized Creativity is the process of realizing needs, gathering information, imagining an alternative, making decisions, and acting. Please report your judgments on the scales and matrices to follow.

Asian American Group # 012

The fact that the society has been discovered has already involved a form of outside interference. If further involvement is kept to a minimum, the culture may remain intact. The industrialized nation should probably provide some basic medical technology to reduce the high mortality rate. Precautions must be taken to ensure that the quality of the social fabric is preserved.

Hispanic American Group # 027

It seems appropriate to give the tribe minimal agricultural technology to counteract malnutrition. However, care must be taken to avoid damaging the trial's social network. "Necessities" that seem important to us may be too disturbing to this primitive culture. We opt for an intervention of a limited sort.

Please rate the socialized creativity solutions on the following scale by circling the appropriate answer.

Asian American Group Solution

1	2	3	4	5
Not interesting				Very interesting
1	2	3	4	5
Not creative				Very creative
1	2	3	4	5
Not original				Very original
1	2	3	4	5
Not imaginative				Very imaginative
1	2	3	4	5
Not clever				Very clever
1	2	3	4	5
Not logical				Very logical
1	2	3	4	5
Not appropriate				Very appropriate
1	2	3	4	5
Bad quality				Good quality

Hispanic American Group Solution

1	2	3	4	5
Not interesting				Very interesting
1	2	3	4	5
Not creative				Very creative
1	2	3	4	5
Not original				Very original
1	2	3	4	5
Not imaginative				Very imaginative
1	2	3	4	5
Not clever				Very clever
1	2	3	4	5
Not logical				Very logical
1	2	3	4	5
Not appropriate				Very appropriate
1	2	3	4	5
Bad quality				Good quality

Matrix Instructions

Please rate the performance of each groups effort to their solution in comparison to the other (Asian American vs. Hispanic American). Base your opinion on the overall quality of the Socialized Creativity solutions that were provided previously. You will be reporting your judgment on several matrices such as the one below:

	A	B	C	D	E	F	G	H	I	J	K	L	M
Asian Group	7	8	9	10	11	12	13	14	15	16	17	18	19
Hispanic Group	1	3	5	7	9	11	13	15	17	19	21	23	25

Each number represents general performance points. You must always choose a single vertical column of numbers, so that the points allocated to one group are always directly above the points allocated to the other group, for example, 7/1, 15/17, etc. When you have made your decision please circle the appropriate letter at the top of each column and write the specific amounts in the space provided, as shown in the following example:

Points for the Asian Group: 10
Points for the Hispanic Group: 7

Strategies

1. If you rate both groups equally, you can choose the 13/13 column.

2. You can give one group the most points available, regardless of how many points the other group gets. For example, in the matrix above, if you preferred Groups A's performance, you would choose the 19/25 column.

3. You can rate one group higher, and rate the other group as low as possible. In this particular matrix, if you preferred Group A's solution, you would choose the 7/1 column.

These are pure strategies. You may choose any vertical column of performance points that best represents your judgment. Just compare the points in a column to each other (7 vs. 1, 18 vs. 23, etc) to arrive at your decision. BE SURE TO PAY ATTENTION TO THE WAY THE MATRIX ROWS ARE LABELED, SO THAT YOU ARE AWARE OF THE WAY THE POINTS WILL BE ALLOCATED TO EACH GROUP. **THESE LABELS ARE REVERSED ON SOME MATRICES.**

You will be given six matrices to rate the same 2 solutions (The Asian American group solution & Hispanic American group solution) that we provided earlier. Each matrix is different. This process allows us to precisely determine your ratings of the Socialized Creativity solutions by indicating trends across the varying matrices. Please complete all 6 matrices.

(The following matrices appeared on six separate pages, counterbalanced):

These numbers represent performance points to be allocated.

	A	B	C	D	E	F	G	H	I	J	K	L	M
Asian Group	19	18	17	16	15	14	13	12	11	10	9	8	7
Hispanic Group	1	3	5	7	9	11	13	15	17	19	21	23	25

a1

Points for Asian American Group _____
Points for Hispanic American Group _____

These numbers represent performance points to be allocated.

	A	B	C	D	E	F	G	H	I	J	K	L	M
Hispanic Group	19	18	17	16	15	14	13	12	11	10	9	8	7
Asian Group	1	3	5	7	9	11	13	15	17	19	21	23	25

a2

Points for Hispanic American Group _____
Points for Asian American Group _____

These numbers represent performance points to be allocated.

	A	B	C	D	E	F	G	H	I	J	K	L	M
Asian Group	7	8	9	10	11	12	13	14	15	16	17	18	19
Hispanic Group	1	3	5	7	9	11	13	15	17	19	21	23	25

b1

Points for Asian American Group _____
Points for Hispanic American Group _____

These numbers represent performance points to be allocated.

	A	B	C	D	E	F	G	H	I	J	K	L	M
Hispanic Group	7	8	9	10	11	12	13	14	15	16	17	18	19
Asian Group	1	3	5	7	9	11	13	15	17	19	21	23	25

b2

Points for Hispanic American Group _____
Points for Asian American Group _____

These numbers represent performance points to be allocated.

	A	B	C	D	E	F	G	H	I	J	K	L	M
Asian Group	14	15	16	17	18	19	20	21	22	23	24	25	26
Hispanic Group	14	13	12	11	10	9	8	7	6	5	4	3	2

c1

Points for Asian American Group _____
Points for Hispanic Group _____

These numbers represent performance points to be allocated.

	A	B	C	D	E	F	G	H	I	J	K	L	M
Hispanic Group	14	15	16	17	18	19	20	21	22	23	24	25	26
Asian Group	14	13	12	11	10	9	8	7	6	5	4	3	2

c2

Points for Hispanic American Group _____
Points for Asian American Group _____

1. How well do you think the Asian American group performed on the Socialized Creativity task compared to the Hispanic American group?

1	2	3	4	5
Not very well				Very well

2. How well do you think the Hispanic American group performed on the Socialized Creativity task compared to the Asian American group?

1	2	3	4	5
Not very well				Very well

3. How proud are you of your ethnic background?

1	2	3	4	5
Not very proud				Very proud

4. How important is your ethnic background to you?

1	2	3	4	5
Not very Important				Very important

5. How well *do* you do in school?

1	2	3	4	5
Not very well				Very well

6. How well *can* you do in school?

1	2	3	4	5
Not very well				Very well

7. Describe your socio-economic status:

Lower Class	Lower Middle Class	Middle Class	Upper Middle Class	Upper Class

8. In general, are you more likely to adhere to the values of:
   - ☐ The United States (Americans)
   - ☐ Your families' native Country (list Country) _____
   - ☐ Both the United States and your native Country *equally*
   - ☐ Neither the United States, nor your native Country

9. How strongly you adhere to those values (referring to the choice you made above):

1	2	3	4	5
Not at All				Completely

10. How do you think the average U.S. citizen perceives the status of your ethnic group compared to the status of Asian Americans? Answer this question based on the statement and scale to follow.

    Compared to the status of Asian Americans, Americans perceive the status of my ethnic group as

1	2	3	4	5
Much Worse	Slightly Worse	Equal	Slightly Better	Much Better

11. Now, how do you think the average citizen from the Bay Area perceives the status of your ethnic group compared to the status of Asian Americans? Answer this question based on the statement and scale to follow.

    Compared to the status of Asian Americans, "Bay Areans" perceive the status of my ethnic group as

1	2	3	4	5
Much Worse	Slightly Worse	Equal	Slightly Better	Much Better

Appendix B

Calculation of Tajfel's Matrices

Instructions for Tajfel's Matrices (1978)

Six matrices are utilized to assess four strategies:

Maximum In-group Profit (MIP or FAV) Strategy of awarding the highest number of points to the in-group.

Maximum Difference (MD) Strategy of maximizing the difference in points between the in-group and out-group.

Equality (EQ) Strategy of awarding an equal number of points to both the in-group and out-group.

Maximum Joint Profit (MJP) Strategy of awarding the largest combined number of points possible to both the in-group and out-group.

In-group bias (or social competition) is established through two "pulled" scores of FAV (as measured by FAV on MJP and FAV on EQ) and the "pulled" score of MD (as measured by MD on MJP + MIP). The instructions of how to calculate these pulled scores are listed below.

To determine the pulled scores on each matrix, the following calculation is computed (the in-group/out-group point values are determined from examining the actual points allocated by the participants on the matrices. The point systems for the matrices begin on page 2).

$$\frac{\text{In-group}}{\text{Out-group}} - \frac{\text{Out-group}}{\text{In-group}} \quad \text{Or} \quad \text{Matrix 1} - \text{Matrix 2 (for A, B, C)}$$

The values utilized for each calculation refer to the column of points that was selected by the participant. For example, if a participant selected column A in matrix a1, then column M in matrix a2, the pulled score would be 12 – 0 = 12.

The values obtained from each pulled score can range from $^{-}12$ to $^{+}12$. When a pulled score is a positive value, this illustrates in-group bias. When a pulled score is negative, this illustrates out-group favoritism. Below are a few more examples to help illustrate.

If a participant selects column M in b1 and column A in b2, the pulled score is 0 – 12 = $^{-}$ 12.

If a participant selects column M in c1 and column M in c2, the pulled score is 12 – 12 = 0.
(A score of 0 indicates EQ or MJP).

Bourhis, Sachdev & Gagnon (1994).

MATRIX A (To calculate pulled score of FAV on MJP)

(a1) MIP & MD are at the left end of the continuum; MJP is at the right end.
(a2) MIP, MD, & MJP are at the right end of the continuum.
The MJP end of the continuum is scored as 0 and the continuum counts up to 12.

Scoring system	12	11	10	9	8	7	6	5	4	3	2	1	0
	A	B	C	D	E	F	G	H	I	J	K	L	M
In-group	19	18	17	16	15	14	13	12	11	10	9	8	7
Out-group	1	3	5	7	9	11	13	15	17	19	21	23	25

a1

Scoring system	12	11	10	9	8	7	6	5	4	3	2	1	0
	A	B	C	D	E	F	G	H	I	J	K	L	M
Out-group	19	18	17	16	15	14	13	12	11	10	9	8	7
In-group	1	3	5	7	9	11	13	15	17	19	21	23	25

a2

MATRIX B (To calculate pulled score of MD on MJP + MIP)

MD is at the left end of the continuum; MIP & MJP are at the right end.
MD, MIP, & MJP are at the right end of the continuum.
The MJP & MIP end of the continuum is scored as 0, continuing up to 12.

Scoring system	12	11	10	9	8	7	6	5	4	3	2	1	0
	A	B	C	D	E	F	G	H	I	J	K	L	M
In-group	7	8	9	10	11	12	13	14	15	16	17	18	19
Out-group	1	3	5	7	9	11	13	15	17	19	21	23	25

b1

Scoring system	12	11	10	9	8	7	6	5	4	3	2	1	0
	A	B	C	D	E	F	G	H	I	J	K	L	M
Out-group	7	8	9	10	11	12	13	14	15	16	17	18	19
In-group	1	3	5	7	9	11	13	15	17	19	21	23	25

b2

MATRIX C (To calculate pulled score of FAV on EQ)

EQ is at the left end of the continuum; MIP is at the right end.
EQ & MIP are at the left end of the continuum.
The EQ end of the continuum is scored as 0, continuing up to 12

Scoring system	0	1	2	3	4	5	6	7	8	9	10	11	12
	A	B	C	D	E	F	G	H	I	J	K	L	M
In-group	14	15	16	17	18	19	20	21	22	23	24	25	26
Out-group	14	13	12	11	10	9	8	7	6	5	4	3	2
													c1

Scoring system	0	1	2	3	4	5	6	7	8	9	10	11	12
	A	B	C	D	E	F	G	H	I	J	K	L	M
Out-group	14	15	16	17	18	19	20	21	22	23	24	25	26
In-group	14	13	12	11	10	9	8	7	6	5	4	3	2
													c2

Appendix C

Consent Form

Agreement to Participate in Research (on SJSU letterhead)

Responsible Investigators: Stacie Granada, Arlene Asuncion
Title of Protocol: Evaluating Solutions to a Creativity Task.

You have been asked to participate in a research study investigating how students perceive and rate previous students' solutions to a *Socialized Creativity* task.

You will be asked to read solutions that were created by previous groups of students and evaluate the two solutions based on a point system provided by the researcher.

There are no anticipated risks or benefits associated with participating in this study.

All the data you provide will be treated as confidential. Although publication of this study may occur, no information that could identify you will be included.

If desired, you will have your extra credit sheet or partial course credit sheet signed by the experimenter before the start of the experiment. This way, if you feel uncomfortable with any task you engage in, you are free to leave with your credit already assigned.

Questions about this research may be addressed to Dr. Arlene Asuncion (Associate Professor, Department of Psychology) at (408) 924-5609. Complaints about the research may be presented to Dr. Bob Pellegrini (Chair, Department of Psychology) at (408) 924-5600. Questions about research, participants' rights or research related injury may be presented to Dr. Nabil Ibrahim (Associate Vice President, Graduate Studies and Research) at (408) 924-2480.

No service of any kind, to which you are otherwise entitled, will be lost or jeopardized should you choose to "not participate" in the study.

Your consent is being given voluntarily. You may refuse to participate in the entire study or in any part of the study. If you decide to participate in the study, you are free to withdraw at any time without negative effect on your relations with San Jose State University or with any other participating institutions or agencies.

The investigator will provide you with a signed and dated copy of this agreement.

Sign below to indicate your voluntary consent to participate.

_____

(Participant signature) (Date)

_____

(Investigator signature) (Date)

Appendix D

Signed Approval Form